

CLAIMS

1. An image sensor comprising a light receiver for receiving light by converting incident light into electric signals, and a
5 readout unit for reading the electric signals acquired from the light receiver, characterized in that a potential gradient is provided in which potentials about the electric signals gradually change from the light receiver toward said readout unit.
- 10 2. An image sensor as defined in claim 1, characterized in that said potential gradient is provided by gradually enlarging a width of impurities forming said light receiver, from the light receiver to said readout unit.
- 15 3. An image sensor as defined in claim 1, characterized in that said potential gradient is provided by gradually increasing density of impurities forming said light receiver, from the light receiver to said readout unit.
- 20 4. An image sensor as defined in claim 1, characterized in that said light receiver is a photodiode.
5. An image sensor as defined in claim 1, characterized in that said light receiver is a photogate.

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6. An apparatus for an image sensor using an image sensor comprising a light receiver for receiving light by converting incident light into electric signals, and a readout unit for reading the electric signals acquired from the light receiver,

5 characterized in that a potential gradient is provided in which potentials about the electric signals gradually change from the light receiver toward said readout unit.

7. An apparatus for an image sensor as defined in claim 6,
10 characterized in that said potential gradient is provided by gradually enlarging a width of impurities forming said light receiver, from the light receiver to said readout unit.

8. An apparatus for an image sensor as defined in claim 6,
15 characterized in that said potential gradient is provided by gradually increasing density of impurities forming said light receiver, from the light receiver to said readout unit.

9. An apparatus for an image sensor as defined in claim 6,
20 characterized in that said apparatus is used as an imaging apparatus that takes in optical images of a photographic subject, with said light receiver converting the taken-in optical images into electric signals, and has a crystalline lens for taking in the optical images of said photographic subject.

10. An image sensor comprising a light receiver for receiving light by converting incident light into electric signals, a readout unit for reading the electric signals acquired from the light receiver, and a plurality of storage units for storing the electric signals read by the readout unit, characterized in that a first drain structure is disposed adjacent a storage unit adjacent the readout unit or the readout unit for discharging excess part of the electric signals read by said readout unit.
11. An image sensor as defined in claim 10, characterized in that said sensor further includes a second drain structure disposed adjacent the light receiver for discharging excess part of said electric signals in said light receiver.
12. An image sensor as defined in claim 10, characterized in that said light receiver is a photodiode.
13. An image sensor as defined in claim 10, characterized in that said light receiver is a photogate.
14. An apparatus for an image sensor using an image sensor comprising a light receiver for receiving light by converting incident light into electric signals, a readout unit for reading the electric signals acquired from the light receiver, and a plurality of storage units for storing the electric signals read by the read-

out unit, characterized in that a first drain structure is disposed adjacent a storage unit adjacent the readout unit or the readout unit for discharging excess part of the electric signals read by said readout unit.

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15. An apparatus for an image sensor as defined in claim 14, characterized in that said sensor further includes a second drain structure disposed adjacent the light receiver for discharging excess part of said electric signals in said light receiver.

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16. An apparatus for an image sensor as defined in claim 14, characterized in that said apparatus is used as an imaging apparatus that takes in optical images of a photographic subject, with said light receiver converting the taken-in optical images
15 into electric signals, and has a crystalline lens for taking in the optical images of said photographic subject.